

### REMARKS

Claims 1-18 are pending. Claims 1-18 stand rejected in this Office Action. Applicant is amending claims 1 and 10 as will be discussed.

Applicant acknowledges the withdrawal of the objections to drawings 1-30 and the specification and the acceptance of the drawings. Applicant also acknowledges that Applicant's arguments with respect to claims 1-2, 4-11, and 13-18, as presented in the paper filed January 31, 2007, have been considered but are moot in view of the new grounds of rejection (Royce, "Managing the Development of Large Software Systems").

#### **Claim Rejections – 35 U.S.C. § 103**

**Claims 1-2, 4-11, and 13-18 are rejected under 103 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,727,161 (Purcell), U.S. Patent No. 5,727,950 (Cook), U.S. Patent No. 5,372,507 (Goleh), and "Managing the Development of Large Software Systems" (Royce).**

Applicant is amending claim 1 to include the feature of "managing information flow utilizing a table of components to provide a simulation of the actual work environment during the presentation, wherein each component encapsulates behavior and data necessary to support a related set of service through a published interface, each said component supporting activities in a plurality of development phases of the simulation that include a test phase, **the test phase including functional testing, usability testing, and cognition testing**, the test phase being performed to verify that the simulation: functions properly; **enables the student to navigate effectively; and meets learning objectives.**" (Emphasis added.) The amendment is supported by the specification as originally filed. For example, the specification discloses (Page 6, lines 13 – 22. Emphasis added.):

The Test Phase, as the name implies, is for testing the application. Testing is performed to verify the application in three ways: first that the application functions properly (**functional testing**), second that the students understand the interface and can navigate effectively (**usability testing**), and third that the learning objectives are met (**cognition testing**). Functional testing of the application can be carried out by the development team or by a dedicated test team. If the application fails to function properly, it is debugged, fixed, recompiled and retested until its operation is satisfactory. Usability and cognition testing can only be carried out by test students who are unfamiliar with the

application. If usability is unsatisfactory, parts of the interface and or feedback logic may need to be redesigned, recoded, and retested. If the learning objectives are not met, large parts of the application may need to be removed and completely redeveloped from a different perspective. The test phase is typically where most of the difficulties in the BusSim development cycle are encountered. The process of discovering and fixing functional, usability, and cognition problems is a difficult process and not an exact science.

The combination of Purcell, Cook, Goleh), and Royce fails to suggest the feature of “managing information flow utilizing a table of components to provide a simulation of the actual work environment during the presentation, wherein each component encapsulates behavior and data necessary to support a related set of service through a published interface, each said component supporting activities in a plurality of development phases of the simulation that include a test phase, the test phase including functional testing, usability testing, and cognition testing, the test phase being performed to verify that the simulation: functions properly; enables the student to navigate effectively; and meets learning objectives.” The Office Action admits that (Page 10, lines 17-19.):

The combination of Purcell, Goleh, and Cook fails to explicitly teach: -(c) wherein the development phases of the simulation that include a test phase, the test phase being performed to verify that the simulation functions properly.

However, the Office Action alleges that Royce teaches (Page 10, lines 20-28.):

... - (c) wherein the development phase, the test phase being performed to verify that the simulation functions properly (p328-338 especially “test phase” p335 ¶1; Furthermore, there is abundant literature discussing software development processes which makes it abundantly clear that it is well known in the art at the time of the invention was make for software development to include phases including, but not limited to: planning, specifying/gathering requirements, analyzing requirements, defining functions, prototyping, designing, building/coding, testing, producing a product, customer delivery acceptance, installation, training users, operation/execution, customization, evolution, and post-production fixes.)

Royce discloses (Page 328, first paragraph. Emphasis added.):

I am going to describe my personal views about managing large software developments. I have had various assignments during the past nine years, mostly concerned with the development of software packages for **spacecraft mission planning, commanding and post-flight analysis**. In these assignments I have experienced different degrees of success with respect to arriving at an operational

state, on-time, and within costs. I have become prejudiced by my experiences and am going to relate some of these prejudices in this presentation.

Royce further discloses (Page 335, first paragraph.)

Without question the biggest user of project resources, whether if be manpower, computer time, or management judgment, the test phase. It is the phase of greatest risk in terms of dollars and schedule. It occurs at the latest point in the schedule when backup alternatives are least available, if at all.

While Royce discloses that the test phase if the biggest user of project resources, he indicates that his experience is limited to spacecraft mission planning, commanding, and post-flight analysis and fails to disclose anything about projects involving software for simulations. Furthermore, Royce fails to suggest that the test phase includes functional testing, usability testing, and cognition testing and that the test phase is performed to verify that the simulation functions properly, enables the student to navigate effectively, and meets learning objectives.

Applicant is amending independent claim 10 to include the similar feature of “logic that manages information flow utilizing a table of components to provide a simulation of the actual work environment during the presentation, wherein each component encapsulates behavior and data necessary to support a related set of services through a published interface, each said component supporting activities in a plurality of development phases of the simulation that include a test phase, the test phase including functional testing, usability testing, and cognition testing, the test phase being performed to verify that the simulation: functions properly; enables the student to navigate effectively; and meets learning objectives.” Moreover, claims 2, 4-9, 11, and 13-18 ultimately depend from independent claims 1 and 10. Applicant requests reconsideration of claims 1-2, 4-11, and 13-18.

**Claims 3 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Purcell, Cook, Goleh, and Royce, as applied to claims 1-2, 4-11, and 13-18 and further in view of U.S. Patent No. 4,847,784 (Clancey).**

Claims 3 and 12 ultimately depend from claims 1 and 10. Because Clancey does not remedy the deficiencies of Purcell, Cook, and Goleh, claims 3 and 12 are patentable for at least the above reasons.

All objections and rejections have been addressed. Hence, it is respectfully submitted that the present application is in condition for allowance, and a notice to that effect is earnestly solicited.

Respectfully submitted,

Date: July 17, 2007

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